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TRANSMITTAL LETTER
(General - Patent Pending)

Docket No.
DEX0491US.NP

In Re Application of: **Papkoff et al.**

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
10/562,259	Not yet assigned	Not yet assigned	32800		

Title: **Pro104 Antibody Compositions and Methods of Use**

COMMISSIONER FOR PATENTS:


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Dated: **August 9, 2006**

Kathleen A. Tyrrell, Reg. No. 38,350

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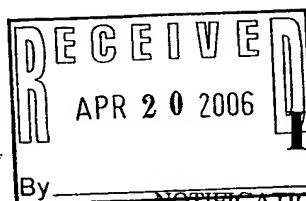
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PATENT COOPERATION TREATY

PCT/US2004/020741



PCT

From the INTERNATIONAL BUREAU

To:

LICATA, Jane, Massey
Licata & Tyrrell P.C.
66 E. Main Street
Marlton, NJ 08053
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By _____
NOTIFICATION CONCERNING
TRANSMITTAL OF COPY OF INTERNATIONAL
PRELIMINARY REPORT ON PATENTABILITY
(CHAPTER I OF THE PATENT COOPERATION
TREATY)
(PCT Rule 44bis.1(c))

Date of mailing (day/month/year)
23 March 2006 (23.03.2006)

Applicant's or agent's file reference
DEX-0491

IMPORTANT NOTICE

International application No.
PCT/US2004/020741

International filing date (day/month/year)
28 June 2004 (28.06.2004)

Priority date (day/month/year)
27 June 2003 (27.06.2003)

Applicant

DIADEXUS, INC. et al

The International Bureau transmits herewith a copy of the international preliminary report on patentability (Chapter I of the Patent Cooperation Treaty)

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Authorized officer

Nora Lindner

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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference DEX-0491	FOR FURTHER ACTION		See item 4 below
International application No. PCT/US2004/020741	International filing date (<i>day/month/year</i>) 28 June 2004 (28.06.2004)	Priority date (<i>day/month/year</i>) 27 June 2003 (27.06.2003)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant DIADEXUS, INC.			

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 *bis*. 1(a).

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

Date of issuance of this report
13 March 2006 (13.03.2006)

Authorized officer

Nora Lindner

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PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITYTo:
JANE MASSEY LICATA
LICATA & TYRRELL P.C.
66 E. MAIN STREET
MARLTON, NJ 08053

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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing (day/month/year)		08 FEB 2006
Applicant's or agent's file reference		FOR FURTHER ACTION See paragraph 2 below
DEX-0491		
International application No.	International filing date (day/month/year)	Priority date (day/month/year)
PCT/US04/20741	28 June 2004 (28.06.2004)	27 June 2003 (27.06.2003)
International Patent Classification (IPC) or both national classification and IPC		
IPC(7): 435/6, 226, 252.3, 252.33, 432.5, 320.1, 219; 536/23.2 and US Cl.: C12N 1/20, 15/00, 5/00, 9/50; C07H 21/04		
Applicant		
DEX-0491		

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	Date of completion of this opinion 12 December 2005 (12.12.2005)	Authorized officer <i>Parthosh K. Tungatur</i> Parthosh K. Tungatur Telephone No. (571) 272-0600
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Form PCT/ISA/237 (cover sheet) (April 2005)

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US04/20741

Box No. 1 Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of:

- ☒ the international application in the language in which it was filed
- ☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing
- ☐ table(s) related to the sequence listing

b. format of material

- ☐ on paper
- ☐ in electronic form

c. time of filing/furnishing

- ☐ contained in the international application as filed.
- ☐ filed together with the international application in electronic form.
- ☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US04/20741

Box No. V Reasoned statement under Rule 43 bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims <u>Please See Continuation Sheet</u> _____ YES
	Claims <u>Please See Continuation Sheet</u> _____ NO
Inventive step (IS)	Claims <u>Please See Continuation Sheet</u> _____ YES
	Claims <u>Please See Continuation Sheet</u> _____ NO
Industrial applicability (IA)	Claims <u>Please See Continuation Sheet</u> _____ YES
	Claims <u>Please See Continuation Sheet</u> _____ NO

2. Citations and explanations:

Claims 1-5, 8-18, 20-22, 24-28, 30-38, 40-51 and 53-71 lack inventive step under PCT Article 33(3) as being obvious over Antalis et al (U.S. Patent 6,479,274) in view of Bandman et al (U.S. Patent 6,203,979), in view of Mack et al (U.S. Publication 20040146862) and in view of Chari et al (U.S. Patent 6,333,410).

The claims are summarized as an isolated Pro104 antibody, wherein the antibody is humanized, conjugated to a growth inhibitory, cytotoxic agent, toxin, a method of killing the Pro-104 expressing cancer cell, a method of determining the overexpression of Pro104 and a screening method of antibodies.

Antalis et al teach "testisin (referred to as Pro-104) in the instant application, antibodies that bind to testisin.

Bandman et al teach (abstract and summary of invention, in particular) the amino acid sequences SEQ ID NO:3 (at least 99.6% identical to the Pro-104 sequence as disclosed in the instant application) of human protease molecules, antibodies to the amino acid sequence the methods of producing antibodies and the use of these sequences in the diagnosis, treatment, and prevention of cell proliferative and immune disorders, in addition determining the expression patterns of the protein and detection methods.

Mack et al teach that there are many techniques for the preparation of antibodies e.g., recombinant, monoclonal, polyclonal, in addition to the produce antibodies to the polypeptides of the invention (paragraphs 101 and 193-207, in particular). Mack et al also teach an antibody that is conjugated to cytotoxic agent (paragraph 28), or linked to an entirely different molecule which confers new properties to the antibody, e.g., an enzyme, toxin, hormone, growth factor, drug, etc. (paragraph 102, in particular), and a pharmaceutical composition comprising a pharmaceutically acceptable carrier (paragraph 43, in particular).

Chari et al teach antibody drug-conjugates utilizing Maytansinoids as a conjugate (see brief summary of the invention, in particular).

It would have been obvious to produce antibodies that binds to Pro104 and produce a humanized version of it further comprising the limitations as claimed because Bandman et al teach antibodies to an amino acid sequence that is identical to Pro104 and combining it with the teachings of Mack et al and Chari et al.

Therefore, claims 1-5, 8-18, 20-22, 24-28, 30-38, 40-51 and 53-71 lack an inventive step under PCT Article 33(3) as being obvious over Bandman et al, Mack et al and Chari et al.

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